



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2019-0186; Product Identifier 2018-NM-153-AD; Amendment 39-19694; AD 2019-15-01]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc., Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all Bombardier, Inc., Model CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. This AD was prompted by a report that main landing gear (MLG) side stay actuators have been assembled using nonconforming split ball bearings. This AD requires verification of the serial numbers of the installed MLG side stay actuator assemblies, and replacement of the affected parts. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; fax 514-855-7401; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0186.

**Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0186; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Bombardier, Inc., Model CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. The NPRM published in the Federal Register on May 14, 2019 (84 FR 21273). The NPRM was prompted by a report that MLG side stay actuators have been assembled using nonconforming split ball bearings. The NPRM proposed to require verification of the serial numbers of the installed MLG side stay actuator assemblies, and replacement of the affected parts.

The FAA is issuing this AD to address the affected bearings, which could potentially result in asymmetric MLG gear extension or retraction, and subsequent gear collapse during landing.

In the NPRM, the FAA referred to Canadian AD CF-2018-26, dated October 5, 2018. However, since the NPRM was issued, Transport Canada Civil Aviation (TCCA), the civil aviation authority for Canada, issued Canadian AD CF-2018-26R1, dated May 22, 2019 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc., Model CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. The MCAI states:

The landing gear supplier has informed Bombardier Inc. about a quality escape involving Main Landing Gear (MLG) side stay actuators that have been assembled using non-conforming split ball bearings. The affected bearings are manufactured from material that does not meet the required material properties. If not corrected, this condition can result in potentially asymmetric MLG gear extension or retraction and subsequent gear collapse during landing.

The original version of this [Canadian] AD mandated ... verification of the installed MLG side stay actuator assemblies and replacement of the affected parts.

Revision 1 of this [Canadian] AD is issued to add a reference to Table 2 in the applicable Service Bulletins (SBs) that list affected serial numbers for P/N 19011-105.

The FAA has determined that the revised MCAI has no effect on airplanes on which the actions identified in the NPRM were completed. The FAA has revised paragraph (l)(1) of this AD to refer to Canadian AD CF-2018-26R1, dated May 22, 2019.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0186.

## **Comments**

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

## **Conclusion**

The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule with the change described previously and minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

The FAA also determined that this change will not increase the economic burden on any operator or increase the scope of this final rule.

## **Related Service Information under 1 CFR part 51**

Bombardier has issued the following service information.

- Bombardier Service Bulletin 604-32-029, Revision 02, dated May 10, 2018.
- Bombardier Service Bulletin 605-32-006, Revision 02, dated May 10, 2018.
- Bombardier Service Bulletin 650-32-002, Revision 02, dated May 10, 2018.

The service information describes procedures to verify the serial numbers of the installed MLG side stay actuator assemblies and to replace the affected parts. These documents are distinct since they apply to the airplane model in different configurations.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **Costs of Compliance**

The FAA estimates that this AD affects 384 airplanes of U.S. registry. The agency estimates the following costs to comply with this AD:

### **Estimated costs for required actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
1 work-hour X \$85 per hour = \$85	\$0	\$85	\$32,640

The FAA estimates the following costs to do any necessary on-condition action that would be required based on the results of any required actions. The agency has no way of determining the number of aircraft that might need this on-condition action:

### Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
Up to 7 work-hours X \$85 per hour = Up to \$595	Up to \$1,820	Up to \$2,415

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, the agency has included all known costs in its cost estimate.

#### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has

delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2019-15-01 Bombardier, Inc.:** Amendment 39-19694; Docket No. FAA-2019-0186;  
Product Identifier 2018-NM-153-AD.

**(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF  
PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Bombardier, Inc., Model CL-600-2B16 (601-3A, 601-3R,  
and 604 Variants) airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Main landing gear.

**(e) Reason**

This AD was prompted by a report that main landing gear (MLG) side stay  
actuators have been assembled using nonconforming split ball bearings. The FAA is  
issuing this AD to address the affected bearings, which could potentially result in  
asymmetric MLG gear extension or retraction, and subsequent gear collapse during  
landing.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection to Verify the Serial Number**

For airplane serial numbers (S/Ns) 5301 through 5665 inclusive, 5701 through  
5988 inclusive, and 6050 through 6091 inclusive, equipped with any MLG side stay



actuator assembly containing split ball bearing part number (P/N) 104467672: For the left and right MLG side stay actuator assemblies having P/Ns 19011-103 and 19011-105, at the applicable time specified in figure 1 to paragraphs (g) and (h) of this AD, perform an inspection to verify the serial number, in accordance with paragraphs 2.A. and 2.B. of the Accomplishment Instructions of the applicable service information specified in figure 2 to paragraphs (g), (h), and (i) of this AD.

**Figure 1 to paragraphs (g) and (h) – Compliance times**

<b>Total Flight Cycles</b>	<b>Compliance Time</b>
As of the effective date of this AD: 3,350 total flight cycles or fewer on an MLG side stay actuator assembly	Before the MLG side stay actuator assembly reaches 3,750 total flight cycles or 48 months from the effective date of this AD, whichever occurs first.
As of the effective date of this AD: more than 3,350 total flight cycles on an MLG side stay actuator assembly	Within 400 flight cycles or 12 months from the effective date of this AD, whichever occurs first.

**Figure 2 to paragraphs (g), (h), and (i) – Service information**

<b>Model</b>	<b>Airplane S/N</b>	<b>Service Information</b>
CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes	5301 through 5665 inclusive	Bombardier Service Bulletin 604-32-029, Revision 02, dated May 10, 2018
	5701 through 5988 inclusive	Bombardier Service Bulletin 605-32-006, Revision 02, dated May 10, 2018
	6050 through 6091 inclusive	Bombardier Service Bulletin 650-32-002, Revision 02, dated May 10, 2018

#### **(h) Replacement**

If, during the inspection specified in paragraph (g) of this AD, the identified serial number of the MLG side stay actuator assembly is listed in table 1 or table 2 of paragraph

2.B. of the Accomplishment Instructions of the applicable service information specified in figure 2 to paragraphs (g), (h), and (i) of this AD: At the applicable time specified in figure 1 to paragraphs (g) and (h) of this AD, replace the split ball bearing having P/N 104467672, in accordance with paragraph 2.C. of the Accomplishment Instructions of the applicable service information specified in figure 2 to paragraphs (g), (h), and (i) of this AD. If the identified serial number of the MLG side stay actuator assembly is not listed in table 1 or table 2 of paragraph 2.B. of the Accomplishment Instructions of the applicable service information specified in figure 2 to paragraphs (g), (h), and (i) of this AD, no further action is required by this paragraph.

**(i) Parts Installation Limitation**

As of the effective date of this AD, no person may install, on any Bombardier, Inc., Model CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes, an MLG side stay actuator assembly with a serial number listed in table 1 or table 2 of paragraph 2.B. of the Accomplishment Instructions of the applicable service information specified in figure 2 to paragraphs (g), (h), and (i) of this AD, unless the split ball bearing having P/N 104467672 has been previously replaced as specified in paragraph (h) of this AD.

**(j) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the service information in paragraphs (j)(1) through (j)(3) of this AD.

(1) Bombardier Service Bulletin 604-32-029, Revision 01, dated February 5, 2018.

(2) Bombardier Service Bulletin 605-32-006, Revision 01, dated February 5, 2018.

(3) Bombardier Service Bulletin 650-32-002, Revision 01, dated February 5, 2018.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2018-26R1, dated May 22, 2019, for related information. This MCAI may be

found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0186.

(2) For more information about this AD, contact Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (m)(4) of this AD.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 604-32-029, Revision 02, dated May 10, 2018.

(ii) Bombardier Service Bulletin 605-32-006, Revision 02, dated May 10, 2018.

(iii) Bombardier Service Bulletin 650-32-002, Revision 02, dated May 10, 2018.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; fax 514-855-7401; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on July 23, 2019.

Michael Kaszycki,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.

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